AMENDMENTS TO THE CLAIMS

1. (Presently Amended) An isolated ~~peptide, characterized in that it has~~ polypeptide having the following formula:

X1-X2-X3-X4-X5-X6-X7-X8-X9,

wherein:

- X1 is absent or represents an amino acid selected in the group consisting of non-charged polar amino acids and non-polar amino acids,
- X2 is absent or represents an amino acid selected in the group consisting of acidic amino acids, non-charged polar amino acids and non-polar amino acids,
- X3 is selected in the group consisting of basic amino acids, non-charged polar amino acids and non-polar amino acids,
- X4 is W,
- X5 represents an amino acid selected in the group consisting of A, V, L, I, P, W, M and C,
- X6 is selected in the group consisting of non-polar amino acids,
- X7 is a basic amino acid
- X8 is selected in the group consisting of basic amino acids and non-charged polar amino acids and
- X9 is absent or represents an amino acid selected in the group consisting of basic amino acids and non-polar amino acids.

2. (Presently Amended) The isolated ~~peptide~~ polypeptide according to claim 1, ~~characterized in that it~~ wherein said polypeptide is selected ~~in~~ from the group consisting of the following pro-apoptotic ~~peptides~~ polypeptides:

- ~~peptides~~ polypeptides of 6-9 amino acids wherein X5 = I, L, A;
- ~~peptides~~ polypeptides of 6-9 amino acids, wherein X1 is absent or represents I, V, T,

X2 is absent or represents E, X3 =T, S, R, N, X4 =W, X5 =I, A, X6 =L, V, X7 =R, X8 =H, N, X9 is absent or represents P; and

- ~~peptides~~ polypeptides of 6-9 amino acids, wherein X3 = T, X5= I, X6 =L and X8 = H.

3. (Presently Amended) The isolated ~~peptide~~ polypeptide according to claim 1, ~~characterized in that~~ wherein said polypeptide is selected ~~in~~ from the group consisting of the following pro-apoptotic ~~peptides~~ polypeptides:

- ~~peptides~~ polypeptides of 6-9 amino acids wherein X5 = I, L, A;

- ~~peptides~~ polypeptides of 6-9 amino acids, wherein X1 is absent or represents I, V, T, X2 is absent or represents E, X3 =T, S, R, N, X4 =W, X5 =I, A, X6 =L, V, X7 =R, X8 =H, N, X9 is absent or represents P; and

- ~~peptides~~ polypeptides of 6-9 amino acids, wherein X3 = T, X5= I, X6 =L and X8 = H,

with the proviso that said ~~peptide~~ polypeptide is not the ~~peptide~~ polypeptide having the following sequence: IETWILRHP.

4. (Presently Amended) The isolated ~~peptide~~ polypeptide according to claim 1, ~~characterized in that~~ wherein said ~~peptide~~ polypeptide has the following sequence: IETWILRHP.

5. (Presently Amended) The isolated ~~peptide~~ polypeptide according to ~~any of claims 1 to 4, characterized in that~~ claim 1, wherein said ~~peptide~~ polypeptide is associated with or conjugated to another ~~peptide~~ polypeptide or protein such as a carrier protein or non-peptide molecule and/or incorporated into a suitable support.

6. (Presently Amended) ~~Isolated~~ An isolated and purified polynucleotide, ~~characterized in that it~~ which encodes a ~~peptide~~ polypeptide according to ~~anyone of claims 1 to 4~~ claim 1.

7. (Presently Amended) ~~Recombinant~~ A recombinant vector, ~~characterized in that it comprises~~ comprising a polynucleotide according to claim 6.

8. (Presently Amended) ~~Recombinant~~ The recombinant vector according to claim 7, ~~characterized in that it~~ further ~~comprises~~ comprising a sequence encoding a secretory pathway targeting protein.

9. (Presently Amended) ~~Recombinant~~ The recombinant vector according to claim 8, ~~characterized in that~~ wherein said sequence encoding a secretory pathway targeting protein is selected ~~in~~ from the group consisting of a sequence encoding an endoplasmic reticulum targeting signal peptide such as a translocation signal peptide and more specifically the prM translocation signal peptide corresponding to fragment 95-114 of the C protein of a flavivirus and more preferably of a dengue ~~(DEN)~~ virus and a membrane-anchoring signal peptide that targets glycoproteins to the plasma membrane, such as the fragment 1-118 of CD72 ~~(cytosolic tail of a type II integral membrane glycoprotein)~~.

10. (Presently Amended) ~~Recombinant~~ The recombinant vector according to claim 7, ~~characterized in that it~~ further ~~comprises~~ comprising comprises a marker.

11. (Presently Amended) ~~Recombinant~~ The recombinant vector according to claim 10, ~~characterized in that~~ wherein said marker gene is the enhanced green fluorescent protein ~~(EGFP)~~.

12. (Presently Amended) ~~Recombinant~~ The recombinant vector according to ~~claims 7 to 11, characterized in that it further comprises~~ claim 7 further comrising appropriate transcriptional and translational control elements.

13. (Presently Amended) ~~Recombinant~~ The recombinant vector according to claim 7 wherein the polynucleotide encodes the ~~peptide~~ polypeptide having the following sequence: IETWILRHP.

14. (Presently Amended) ~~Recombinant~~ The recombinant vector according to claim 13 wherein ~~it~~ said recombinant vector corresponds to plasmid [95-114]EGFP[M32-M40]DEN-2 which has been deposited at the Collection Nationale de Cultures de Microorganismes, 28 Rue de Docteur Roux, F-75724 Paris Cedex 15, on March 29, 2002 under the number I-2829.

15. (Presently Amended) ~~Recombinant~~ The recombinant vector according to claim 13 wherein ~~it~~ said recombinant vector corresponds to plasmid Trip □ U3 CMV [95-114]EGFP[237-245]DEN-2, which has been deposited at the Collection Nationale de Cultures de Microorganismes, 28 Rue de Docteur Roux, F-75724 Paris Cedex 15, on May 23, 2003, under the number I-3032.

16. (Presently Amended) ~~Host~~ A host cell~~, characterized in that it is~~ transformed ~~by~~ with a recombinant vector according to ~~anyone of claims 7 to 15~~ claim 7.

17. (Presently Amended) ~~Polyclonal or monoclonal antibodies~~ A polyclonal antibody or monoclonal antibody raised against a ~~peptide of claims 1 to 5~~ polypeptide of clam 1.

18. (Presently Amended) ~~Pharmaceutical~~ A pharmaceutical composition comprising an effective amount for inducing apoptosis in cancer cells of ~~a pro-apoptotic peptide according to claims 1 to 4~~ one or more pro-apoptotic polypeptides according to claim 1~~, the polynucleotide encoding the same according to claim 6 or the recombinant vector according to claims 7 to 15~~, a targeting substance to the target cells and at least one pharmaceutically acceptable carrier.

19. (Presently Amended) ~~Pharmaceutical~~ The pharmaceutical composition according to claim 18, ~~characterized in that~~ wherein said targeting substance may be any ligand which can bind specifically to the target cells.

20. (Presently Amended) ~~Method~~ A method of screening for molecules capable of modulating apoptosis comprising ~~the steps of~~:

- introducing ~~the peptide according to claims 1 to 4~~ one or more polypeptides according to claim 1~~, a polynucleotide according to claim 6 or a recombinant vector according to claims 7 to 15~~ into a cell,
- contacting said cell with the molecule to be screened and
- detecting the presence or absence of apoptosis.

21. (Canceled)

22. (Presently Amended) ~~Direct~~ A direct detection method of a flavivirus infection, ~~characterized in that it comprises~~ comprising:

- contacting a biological sample to be analysed or a culture medium supposed to eventually contain flavivirus antigens with antibodies according to claim 17, optionally labelled and,
- a step for detecting the eventually formed antigen-antibody complexes ~~by any means~~.

23. (Presently Amended) ~~Serological~~ A method of serological detection of a flavivirus infection, ~~characterized in that it comprises~~ comprising:

- contacting a biological sample with a solid support on which ~~peptides according to claims 1 to 4~~ one or more polypeptides according to claim 1 are bound, and
- a step for detecting the eventually formed antigen-antibody complexes ~~by any means~~.

24. (New) A pharmaceutical composition comprising an effective amount for inducing apoptosis in cancer cells of one or more polynucleotides according to claim 6, a targeting substance to the target cells and at least one pharmaceutically acceptable carrier.

25. (New) The pharmaceutical composition according to claim 24, wherein said targeting substance may be any ligand which can bind specifically to the target cells.

26. (New) A method of screening for molecules capable of modulating apoptosis comprising:

- introducing one or more polynucleotides according to claim 6 into a cell,
- contacting said cell with the molecule to be screened and
- detecting the presence or absence of apoptosis.

27. (New) A pharmaceutical composition comprising an effective amount for inducing apoptosis in cancer cells of a recombinant vector according to claim 7, a targeting substance to the target cells and at least one pharmaceutically acceptable carrier.

28. (New) The pharmaceutical composition according to claim 26, wherein said targeting

substance may be any ligand which can bind specifically to the target cells.

29. (New) A method of screening for molecules capable of modulating apoptosis comprising:

- introducing a recombinant vector according to claim 7 into a cell,
- contacting said cell with the molecule to be screened and
- detecting the presence or absence of apoptosis.